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New SDI Scenario: Several 'Generations' of Weapons in Space

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Administration officials think that President Reagan's vision of a defense against nuclear missiles is likely to lead the nation into decades of competition with the Soviet Union, as the traditional arms race is extended to a costly new game of countermeasures and counter-countermeasures in space.

Thirty-seven months ago, the president kicked off his Strategic Defense Initiative (SDI), also known as the "Star Wars" program, with a hope of rendering nuclear weapons "impotent and obsolete." SDI enthusiasts quickly proffered an image of an "Astrodome" shield that U.S. technology could activate with the flip of a switch.

In recent weeks, however, as SDI officials offered new details, a different scenario emerged: not the unfolding of a protective umbrella, but a series of deployments over many years, with each new weapon designed to stay a step ahead of Soviet efforts to penetrate the shield.

Even the first generation of SDI weapons, which officials suggest could be deployed in the 1990s, envisions radical new uses of outer space, with hundreds of satellite battle stations equipped to wage orbital dogfights. Such initial systems would offer only limited protection, according to Lt. Gen. James A. Abrahamson, director of the Defense Department's SDI Organization.

"The initial capability will not be this very, very robust, capable, absolutely perfectly capable defense," Abrahamson said last week. "You'll start small and you'll build, and you'll continue to build over time to the point eventually where you get to this very, very effective kind of capability."

"And obviously the other side is going to be trying to do things to stop you."

Abrahamson said the U.S. goal is to demonstrate such effective technology that the Soviets eventually will "change their behavior" and not try to overwhelm it. In the meantime, even a partial defense would complicate Soviet war plans and so make the United States safer, officials said.

But Sayre Stevens, a former deputy CIA director, said the Soviets will probably mount a three-pronged response to the SDI: building more nuclear missiles, developing weapons to attack U.S. defenses and deploying their version of the SDI.

"The Soviets will do what they have done in the past: spend money and allocate scarce resources to the extent that they are required by the military demands they find facing them," he said. "Thus, a vision of the world of 2000-2010 emerges in which both the United States and the Soviet Union are actively engaged in the significant upgrading of both offensive and defensive weapon systems."

The U.S. military is developing weapons to defeat a Soviet "Star Wars" system as it develops its own SDI. For example, Louis C. Marquet, a top SDI official, said recently that the nuclear-powered X-ray laser "is primarily being considered because of its counterdefense applications."

Paul H. Nitze, one of Reagan's top arms control advisers, last week acknowledged the plausibility of Stevens' view, but said policy makers will seek to avoid such "worst-case" scenarios through arms control.

At the same time, Nitze added, "We are under no illusion that this transition will be either short or easy."

Since Reagan launched the SDI in March 1983, Defense Department officials have stressed that it is a research effort only and that remarkable advances in computers, radars and other sensors, space rockets and weapons are needed before a missile defense is feasible.

Recently, however, Abrahamson and his aides have offered new details on how and when the nation might move beyond research. The program has made such progress, the general said, that a decision could be made in the early 1990s to deploy a first-generation complex of systems.

"It will be the first of several political decisions," he said. "There won't be just one."

Abrahamson's special assistant, Lt. Col. Simon P. Worden, said last week that a "baseline" system could be deployed in the 1990s and might cost "from tens of billions of dollars to hundreds of billions." Outside experts, such as former defense secretary James R. Schlesinger, have estimated that a system would cost about \$1 trillion and have questioned whether the technology can be developed so soon, if ever.

Worden, speaking at the American Enterprise Institute, said an initial system might include "several hundred satellite carriers" with thousands of small rockets intended to strike Soviet missiles as they are launched. Other U.S. missiles would be launched from "many sites" on Earth; Worden would not estimate how many.

Some of the ground-launched missiles might themselves be nuclear, Worden said, adding that they would be "small enough to cause little or no damage on the ground but [powerful enough to] effectively disrupt the large attacking warhead before it could detonate."

"But if you stop there, that wouldn't be enough," Abrahamson said at the National Press Club. "You'll also have to know that there's a second generation coming right behind."

Moreover, the SDI would have to develop "some really innovative things" for a third generation of U.S. defenses, Abrahamson said. The second and third generations might include lasers and weapons powered by nuclear explosions.

"The other side ought to know that there is hope for some of these things," he added, "because what you want to prevent them from doing is to put a lot of effort into counters. You want to move them in the area of defense."

As the Soviets investigate various countermeasures, the U.S. military will not know which will be deployed eventually, Stevens said. "We will be left with the problem of somehow having to deal with most of them," he said.

The Soviets are also likely to develop new cruise missiles that fly through the air, below the reach of SDI's space weapons. Anticipating such a development, the Air Force is launching a parallel "Air Defense Initiative" (ADI) to shoot down

bombers and cruise missiles, said Gen. Robert Herres, U.S. Space Command chief.

"There are no slick panaceas," Herres said at an industry symposium here, according to Military Space newsletter. "It's going to cost a lot of money to build an air defense system that is anywhere near leakproof."

U.S. officials remain confident that, as the Soviets deploy countermeasures, they can invent counter-countermeasures. Stevens suggested another possible outcome.

"It is a worrisome possibility that at the end of the SDI adventure . . . the Soviets alone may possess deployed SDI defenses while the United States has abandoned its effort," he said.